

REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application.

Claims 1-8 and 10 are now present in this application. Claims 1 and 6 are independent. Claims 1-5 have been withdrawn from consideration.

By this Amendment, withdrawn claims are amended to remove the parenthetical reference numerals, and claims 6-8 and 10 are also amended. No new matter is involved.

Reconsideration of this application, as amended, is respectfully requested.

Information Disclosure Citation

Applicants thank the Examiner for considering the reference(s) supplied with the Information Disclosure Statement filed on July 22, 2009, and for providing Applicants with an initialed copy thereof.

Personal Interview

Applicants acknowledge with appreciation the courtesies extended by Examiner Fletcher to their representative, Robert J. Webster, Reg. No. 46,472, during the personal interview which was conducted on April 1, 2010. During that interview, amended method claims were discussed. Examiner Fletcher indicated that the amended claims appeared to define over the applied art, and asked Mr. Webster to address the merits of the outstanding rejection in the next Reply to the outstanding Office Action.

Rejection Under 35 U.S.C. § 112, 2nd Paragraph

Claims 6-8 and 10 stand rejected under 35 U.S.C. § 112, 2nd Paragraph. This rejection is respectfully traversed.

The Examiner indicates that the metes and bounds of the term “readily” are not clear.

Applicants respectfully submit that the metes and bounds of the language in issue are readily ascertainable by one of ordinary skill in the art who is aware that, conventionally, "readily" is defined as "without difficulty or delay" or "easily."

Nevertheless, in an attempt to expedite prosecution, the term "readily" has been removed from claim 6.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Rejections under 35 U.S.C. §103

Claims 6-8 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,211,308 to Saint Victor in view of U.S. Patent 4,037,008 to Tugwell and U.S. Patent 5,939,338 to Aucagne et al. ("Aucagne"). This rejection is respectfully traversed.

A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

Because the rejection is based on 35 U.S.C. §103, what is in issue in such a rejection is "the invention as a whole, "not just a few features of the claimed invention. Under 35 U.S.C. §103, "[a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter *as a whole* would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." The determination under §103 is whether the claimed invention *as a whole* would have been obvious to a person of ordinary skill in the art at the time the invention was made. *See In re O'Farrell*, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). In determining obviousness, the invention must be considered as a whole and the claims must be considered in their entirety. *See Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 1567, 220 USPQ 97, 101 (Fed. Cir. 1983).

In rejecting claims under 35 U.S.C. §103, it is incumbent on the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In doing so, the Examiner is expected to make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459,

467 (1966), and to provide a reason why one of ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. *See Uniroyal Inc. v. F-Wiley Corp.*, 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), cert. denied, 488 U.S. 825 (1988); *Ashland Oil, Inc. v. Delta Resins & Refactories, Inc.*, 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a *prima facie* case of obviousness. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. *See In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be suggested or taught by the prior art. *See In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1970). All words in a claim must be considered in judging the patentability of that claim against the prior art. *See In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

A suggestion, teaching, or motivation to combine the prior art references is an "essential evidentiary component of an obviousness holding." *See C.R. Bard, Inc. v. M3 Sys. Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998). This showing must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not "evidence." *See In re Dembiczaik*, 175 F.3d 994 at 1000, 50 USPQ2d 1614 at 1617 (Fed. Cir. 1999).

Moreover, it is well settled that the Office must provide objective evidence of the basis used in a prior art rejection. A factual inquiry whether to modify a reference must be based on objective evidence of record, not merely conclusory statements of the Examiner. *See In re Lee*, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002).

Furthermore, during patent examination, the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785788 (Fed. Cir. 1984). If the PTO fails to meet this burden, then the Applicant is entitled to the patent. Only when a *prima facie* case is made, the burden shifts to the Applicant to come forward to rebut such a case.

Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977,988 (Fed. Cir. 2006) (quoted with approval in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

In the sentence just prior to citing the *Kahn* case, the U.S. Supreme Court clearly stated that there has to be an apparent reason to combine the known elements in the manner claimed. The Office has the burden of making out a *prima facie* case of obviousness, i.e., by presenting objective factual evidence of a reason to combine the known elements in the manner claimed. The *KSR* decision did not lift that burden from the Office.

The articulated reasoning has to express a rationale explaining what would have led an ordinarily skilled artisan to combine selected features from each reference in a way that would have resulted in the claimed invention. *See, KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007). Thus, the Supreme Court reaffirmed the fundamental principles set forth in the *Graham v. John Deere Co.* decision, cited and discussed above.

Claim 6, as amended, recites a method of manufacturing a reinforcing fiber sheet having a cloth core comprising the following steps (a) to (c): (a) a first step comprising setting a screen on top of a cloth layer of an assemblage of reinforcing fibers constructed of vertically and horizontally woven vertical strips and horizontal strips, wherein the cloth layer having the vertical strips and the horizontal strips tends to readily come undone when the cloth layer is pulled diagonally; (b) a second step comprising supplying an ink that exhibits flexibility after drying is supplied onto the screen and screen printing to impregnate the cloth layer with the ink; and (c) a third step comprising drying the cloth layer impregnated with the ink to make the ink into an adhesive medium that bonds together and reinforces the vertical strips and the horizontal

strips into a cloth core, wherein, when the cloth core is pulled in a diagonal direction, the vertical and horizontal strips become inclined to each other forming a rhombic shape that reduces the tendency of the cloth layer from coming undone, and wherein said screen has a mesh size of mesh number which corresponds to $\frac{1}{4}$ to $\frac{1}{3}$ of mesh number specified for ordinary screen printing of said ink.

Applicants respectfully submit that none of the references disclose or suggest the claimed invention.

Saint Victor, for example, does not disclose, either explicitly or inherently, impregnating the cloth layer with the ink, as recited in the invention. It must be remembered, that inherency may not be established by probabilities or possibilities. What is inherent must necessarily be disclosed. *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981) and *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

Nor does Smith Victor disclose, explicitly or inherently, drying the cloth layer impregnated with the ink to make the ink into an adhesive medium that bonds together and reinforces the vertical strips and the horizontal strips into a cloth core, as claimed.

Nor does Smith Victor disclose, explicitly or inherently, wherein, when the cloth core is pulled in a diagonal direction, the vertical and horizontal strips become inclined to each other forming a rhombic shape that reduces the tendency of the cloth layer from coming undone, as claimed.

Nor does Smith Victor disclose wherein the screen has a mesh size of mesh number which corresponds to $\frac{1}{4}$ to $\frac{1}{3}$ of mesh number specified for ordinary screen printing of said ink.

The Office Action also states that the art recognizes no distinction between coating and impregnating, citing *In re Marra et al.*, 141 USPQ 221. In reply to this, Applicants note that the court in that decision actually said the following:

We have difficulty accepting the distinction urged by appellants that “coating” differs from “impregnating” in this case. It would appear that a porous material like paper would be impregnated to some extent by an aqueous composition applied “by various coating techniques” as Keim et al. suggests, whether the composition is called “coating” or “impregnating.” It seems doubtful

that a clearly defined interface between the paper and the coating would result. The differences between coating compositions and impregnating compositions, according to appellants, are in dilution and viscosity. That is, a “coating composition usually has a high-solids content and a relatively high viscosity.” It is clear that none of the claims have any limitations on dilution (solids content) or viscosity. The method claim merely recites “applying” the composition which would appear to include both “coating” processes and “impregnating” processes, even if there is a distinction between “coating” and “impregnating,” and there is no evidence that the art recognizes a distinction. Accordingly, we see no justification for concluding that it is unobvious to employ a sizing agent in either a “coating” composition or an “impregnating” composition.

Thus, what was claimed in the *Marra* case is not what is claimed in this application. *Marra* was just claiming applying a component. Applicants claims recite supplying an ink that exhibits flexibility after drying is supplied onto the screen and screen printing to impregnate the cloth layer with the ink; and (c) a third step comprising drying the cloth layer impregnated with the ink to make the ink into an adhesive medium that bonds together and reinforces the vertical strips and the horizontal strips into a cloth core.

Saint Victor has no concept of these positively recited features and they cannot be provided just by citing a statement from the *Marra* decision.

Furthermore, even if the statement in that decision which is relied upon in this rejection were universally true, the Office Action’s reliance thereon is completely at odds with established precedential case law of the Court of Appeals for the Federal Circuit because it relies on an improper “*per se*” rule of obviousness.

In fact, the USPTO Board of Patent Appeals and Interferences has pointed out the impropriety of relying on such a *per se* rule of obviousness. In this regard, Applicants reproduce the following statements from the Board’s decision in *Ex parte Granneman*, 68 USPQ2d 1219 (BPAI 2003):

The Examiner argues, in reliance upon *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960), that an additional reactor in Zinger’s processing chamber would be a mere duplication of parts and, therefore, would have been obvious to one of ordinary skill in the art (answer, page 6).

The court in *Harza* stated that the only difference between the reference’s

structure for sealing concrete and that of Harza's claim 1 was that the reference's structure had only a single rib (i.e., arm) on each side of a web, whereas the claim required a plurality of such ribs. *See Harza*, 274 F.2d at 671, 124 USPQ at 380. The court stated that "[i]t is well settled that the mere duplication of parts has no patentable significance unless a new and unexpected result is produced, and we are of the opinion that such is not the case here." *Id.*

The Examiner does not compare the facts in *Harza* with those in the present case and explain why, based upon this comparison, the legal conclusion in the present case should be the same as that in *Harza*. Instead, the Examiner relies upon *Harza* as establishing a *per se* rule that duplication of parts is obvious. As stated by the Federal Circuit in *In re Ochiai*, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995), "reliance on *per se* rules of obviousness is legally incorrect and must cease."

[1] For a *prima facie* case of obviousness to be established, the teachings from the prior art itself must appear to have suggested the claimed subject matter to one of ordinary skill in the art. *See In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976). The mere fact that the prior art could be modified as proposed by the Examiner is not sufficient to establish a *prima facie* case of obviousness. *See In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). The Examiner must explain why the prior art would have suggested to one of ordinary skill in the art the desirability of the modification. *See Fritch*, 972 F.2d at 1266, 23 USPQ2d at 1783-84.

The Examiner argues that one of ordinary skill in the art would have included an additional reactor in Zinger's processing chamber to permit simultaneous heat treatment of wafers in two boats and thereby increase the production capacity of the processing chamber (answer, pages 6-7). Zinger, however, uses multiple one-reactor processing chambers rather than multiple reactors within each processing chamber (figure 1). The Examiner has not explained why the Zinger reference itself would have fairly suggested, to one of ordinary skill in the art, the desirability of using multiple reactors within a processing chamber rather than using Zinger's multiple one-reactor processing chambers.

For the above reasons we conclude that the Examiner has not established a *prima facie* case of obviousness of the appellants' claimed invention.

Furthermore, as stated by the Federal Circuit in *In re Ochiai*, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995), "reliance on *per se* rules of obviousness is legally incorrect and must cease."

As stated in *In re Ochiai*, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995),

the use of *per se* rules, while undoubtedly less laborious than a searching comparison of the claimed invention - including all its limitations - with the teachings of the prior art, flouts section 103 and the fundamental case law applying it. *Per se* rules that eliminate the need for fact-specific analysis of claims and prior art may be administratively convenient for PTO Examiners and the Board. But reliance on *per se* rules of obviousness is legally incorrect and must cease. Any such administrative convenience is simply inconsistent with section 103, which, according to *Graham* and its progeny, entitles an applicant to issuance of an otherwise proper patent unless the PTO establishes that the invention *as claimed* in the application is obvious over cited prior art, based on the specific comparison of that prior art with claim limitations. The court held that its precedents do not establish any *per se* rules of obviousness.

A factual inquiry whether to modify a reference must be based on objective evidence of record, not merely conclusory statements of the Examiner. *See In re Lee*, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002).

Tugwell, the third applied reference, which is applied to disclose that mesh size is a result effective variable, merely discloses, in the replied portion of that reference, that coarse mesh inks allow heavy deposits of more viscous inks that do fine mesh screens. Unfortunately, optimizing mesh thickness in Saint Victor would teach away from the claimed mesh size because it would not result in the claimed impregnation features.

Lastly, the Office Action turns to Aucagne. However, even if Aucagne's substrate is used in Saint Victor, the methods of Saint Victor will still not result in the claimed invention for reasons explained above.

Accordingly, the office Action fails to make out a *prima facie* case of obviousness of the claimed invention.

Thus, reconsideration and withdrawal of this rejection under 35 USC §103(a) are respectfully requested.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Robert J. Webster, Registration No. 46,472, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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